

CLINICAL IMAGING

Lime-induced phytophotodermatitis

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This case describes a scenario of lime-induced phytophotodermatitis. Phytophotodermatitis is a dermatitis caused after the skin is exposed to photosensitizing compounds in plants and then exposed to sunlight. Many common plants including citrus fruits, celery, and wild parsnip contain these photosensitizing compounds which cause phytophotodermatitis. It is important for a physician to be aware of phytophotodermatitis because it may often be misdiagnosed as other skin conditions including fungal infection, cellulitis, allergic contact dermatitis, and even child abuse.

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A 24-year-old nurse presented with the following rash on her hands and wrists (Fig. 1). The rash was irregularly shaped however well demarcated,

with erythematous patches and plaques on presentation. It was tender with noted edema of the dorsum of the hands. It had originated 2 days prior with tender



Fig. 1. Well demarcated tender red patches and crusted vesicles.

erythema and swelling of the shown areas, with some vesicle and blister formation. History revealed that several hours prior to the development of the lesions the patient had baked a key lime pie from scratch. Part of the preparation included squeezing fresh limes by hand; afterwards, she walked outside on a bright, sunny day. Several hours later, her skin symptoms began.

The above history and clinical findings are characteristic of lime phytophotodermatitis. Phytophotodermatitis is a nonimmunologic skin eruption which develops after the skin comes in contact with phototoxic agents in certain plants and then is exposed to ultraviolet A (UVA) radiation (1). Several common plant families, including Rutaceae family (lime, lemon) and Umbelliferae family (celery, wild parsnip, parsley, hogweed), contain photo-toxic compounds called furocoumarins which are psoralen isomers (1). When exposed to UVA radiation, psoralens cause photochemical reactions in the skin which damage cell membranes, resulting in cell death, edema, blistering, and injury to the epidermis (2).

Clinically phytophotodermatitis can initially present as lesions ranging from painful erythema and edema to blisters. There can be corresponding vesicles, plaques, or areas of hyperpigmentation (1, 3, 4). This eruption can begin within hours to days after initial sunlight exposure, and commonly transforms into patches of post-inflammatory hyperpigmentation which can last up to several months (1). It often presents in irregularly shaped, well demarcated patterns representing the exposure to the lime juice or other phototoxic agent. Often seen are patterns of ‘streak marks’ from juice dripping downward, handprints from contact, or streaks from brushing against plants.

Treatment is principally symptomatic with topical steroids and application of cold compresses to alleviate pain and reduce duration of symptoms. Prevention is key, with avoidance of sunlight after exposure to photosensitizing agents (1).

Phytophotodermatitis is important to be aware of because it is caused by plants we commonly come into contact with and may be misdiagnosed as allergic contact dermatitis, child abuse, cellulitis, and fungal skin infections (1, 3, 4). Include this in the differential when you see well demarcated, irregular patterns resembling severe sunburn in a patient with history of recent exposure to psoralen containing plants including celery and citrus fruits such lemons or limes.

Disclosure

The authors have nothing to disclose regarding this article.

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